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|  <b>WARNING</b>  |
| <p>To avoid unpredictable system behavior that can cause personal injury and property damage:</p> <ul style="list-style-type: none"> <li>• Disconnect electrical supply (when necessary) before installation, servicing, or conversion.</li> <li>• Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.</li> <li>• Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.</li> <li>• Medium must be moisture-free if ambient temperature is below freezing.</li> <li>• Service according to procedures listed in these instructions.</li> <li>• Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.</li> <li>• After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.</li> <li>• Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.</li> </ul> |

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|  <b>WARNING</b>  |
| <p>Air exhausting from one valve into the exhaust gallery of the manifold assembly may momentarily pressurize other valve circuits open to the same gallery. Design the circuit such that there is no hazard or consequence of damage from this action.</p> |

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| <b>Safety Guide</b>   |
| <p>For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the <b>Pneumatic Division Safety Guide</b> at: <a href="http://www.parker.com/safety">www.parker.com/safety</a></p> |

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|  <b>WARNING</b>  |
| <p><b>FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.</b></p> <p>This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.</p> <p>The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.</p> |

**EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.**

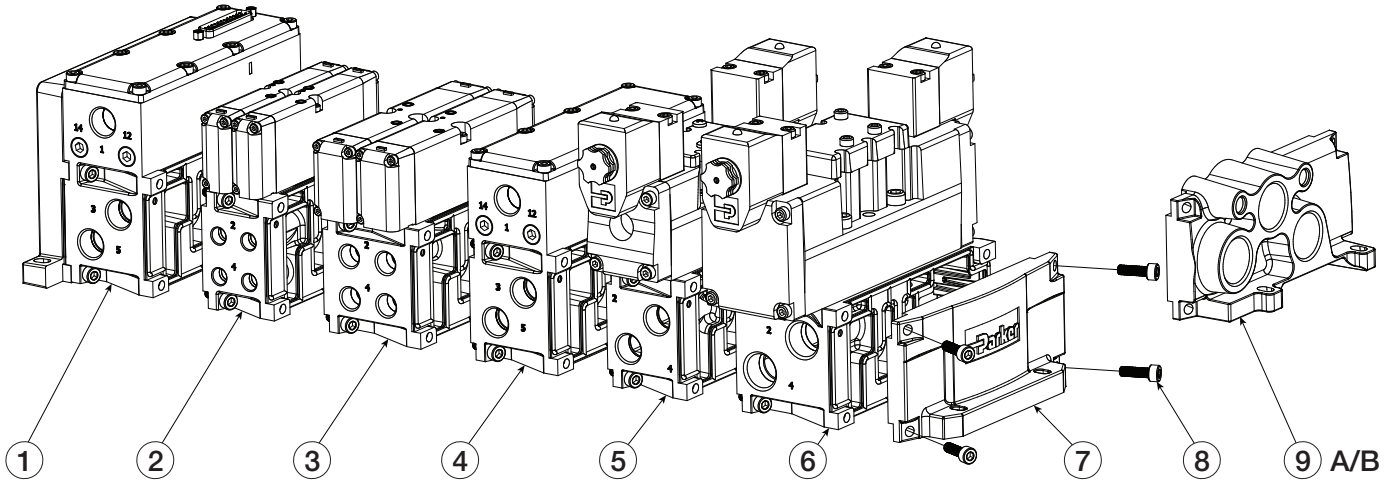
## Introduction

Follow these instructions when installing, operating, or servicing the product.

## Application Limits

These products are intended for use in general purpose compressed air systems only. Compliance with the rated pressure, temperature, and voltage is necessary.

| <b>Contents:</b>                      | <b>Page</b> |
|---------------------------------------|-------------|
| H Universal Assembly .....            | 2           |
| Wall Mount Instructions .....         | 3 & 4       |
| Configurable Air Pilot Endplate ..... | 5           |
| H Universal to H3 Transition .....    | 6 & 7       |



| Item Number | Description                      |
|-------------|----------------------------------|
| 1           | Left Endplate Kit                |
| 2           | HB Segment                       |
| 3           | HA Segment                       |
| 4           | Intermediate Air Supply          |
| 5           | H1 Segment                       |
| 6           | H2 Segment                       |
| 7           | Low Profile Right Endplate       |
| 8           | M5 screws (Torque: 40-50 in-lbs) |
| 9A          | 3/4 in Right Endplate            |
| 9B          | 1/2 in Right Endplate            |

Notes:

1. If extending past 24 addresses an air supply must be used with an expansion board (Item 4)
2. If more air flow is required consider using an extra air supply with a pass through board (Item 4), or a high flow right endplate (Item 9)

See page 5 for H Series Air Supply conversion between internal and external piloting options.

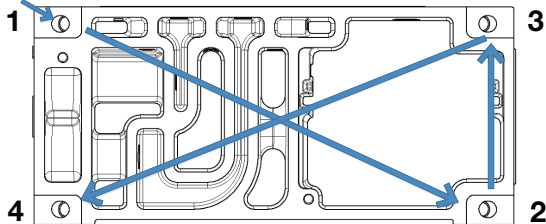
H Universal Gasket Options

| Gasket Options | Pneumatic Zone Option  | Pneumatic Zone Pilot Option |
|----------------|------------------------|-----------------------------|
| 1              | Gallies 1, 3, 5 Open   | Gallies 12, 14 Open         |
| 2              | Galley 1 Closed        | Gallies 12, 14 Open         |
| 3              | Gallies 1, 3, 5 Closed | Gallies 12, 14 Open         |
| 4              | Galley 3, 5 Closed     | Gallies 12, 14 Open         |
| 5              | Gallies 1, 3, 5 Open   | Gallies 12, 14 Closed       |
| 6              | Gallies 1, 3, 5 Closed | Gallies 12, 14 Closed       |
| 7              | Galley 1 Closed        | Gallies 12, 14 Closed       |
| 8              | Galley 3, 5 Closed     | Gallies 12, 14 Closed       |

Assembly Techniques Manifold to Manifold

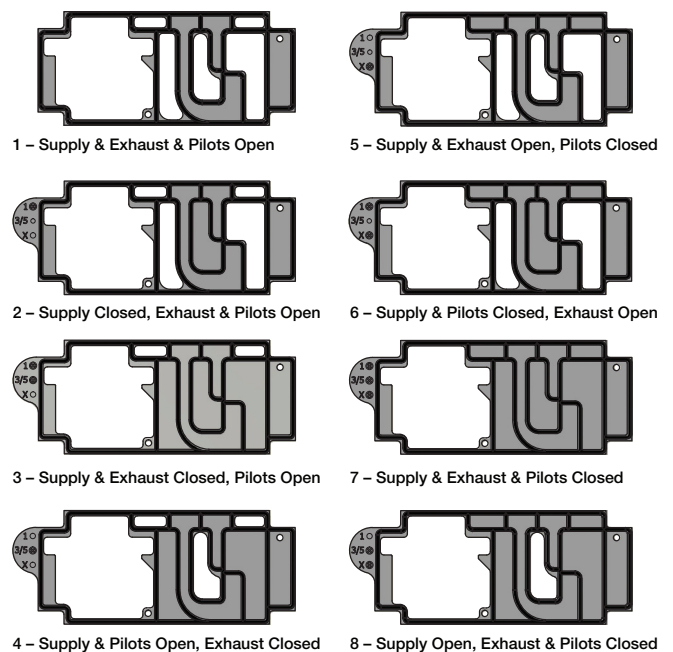
1. Position left endplate kit (Item 1) in desired location
2. Place the plate gasket over the mounting pads on the exposed left endplate (Item 1) surface, **Note: verify the electrical connector is out of the way of the gasket**
3. Position the next manifold (Item 2) segment on the left endplate
4. Finger tighten M5 screws in the pattern shown in figure below, make sure to start with the screw at position #1 \*

\* Start with this screw

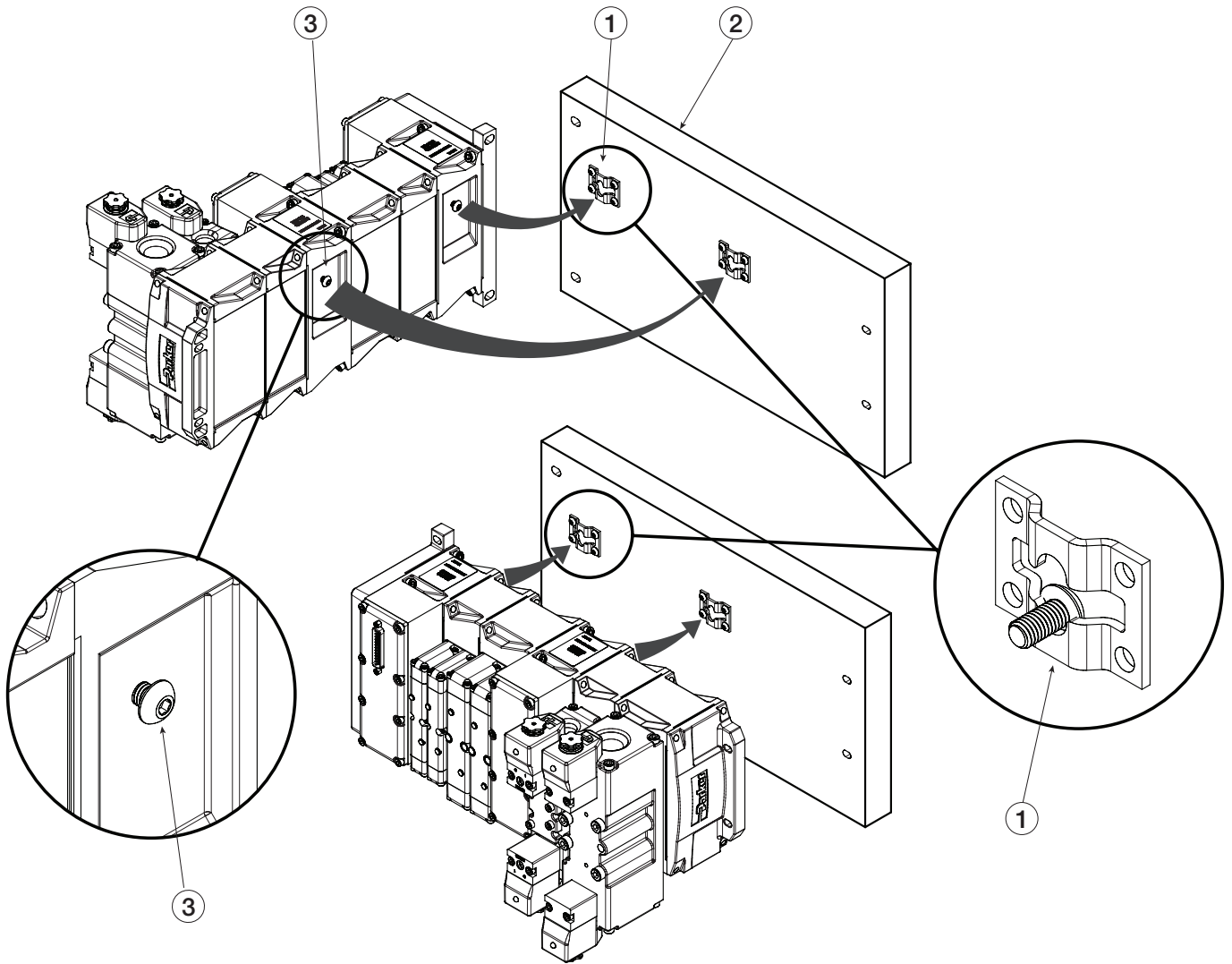


Failure to follow the correct torquing procedure may result in misalignment of the manifold.

5. Fully torque M5 screws to 40-50 in-lbs using the same pattern shown above
6. Repeat steps 2 through 5 for each manifold segment (Items 3 through 6)
7. Place right endplate (Item 7 or 9 A/B) on the final segment and torque to the proper value using same pattern as above
8. Add valves and accessories. All manifold assemblies should be electrically and pneumatically tested before operation



**H Universal Bank Hanger Bracket Horizontal**



| Item Number | Description                  |
|-------------|------------------------------|
| 1           | H Universal Hanger Bracket   |
| 2           | Mounting Plate               |
| 3           | M5 x 0.8mm Button Head Screw |

**Assembly Techniques Hanger Bracket**

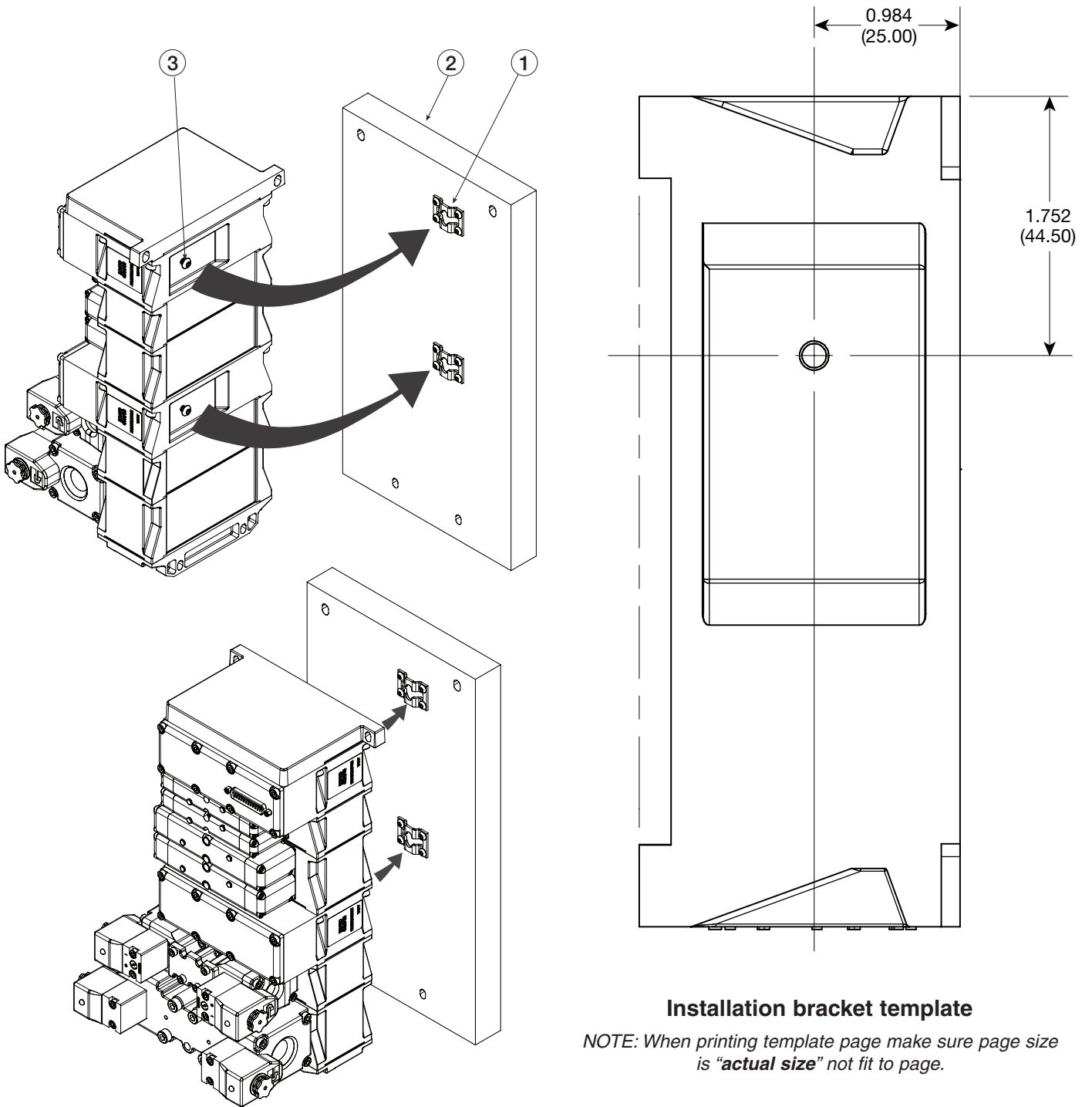
1. The bank can be hung horizontally or vertically
2. a. A minimum of two brackets (Item 1) must be used for hanging horizontally
- b. A minimum of one bracket (Item 1) is required when hanging vertically
- NOTE: The max weight per bracket is 50 lbs
3. Assemble the screw (Item 3) that is provided in the kit into the bottom of the air supply or right endplate
4. Measure the distance between all the screws
5. Assemble the brackets (Item 1) onto the mounting surface, according to the measurements on step 4

6. Hang the manifold onto the brackets (Item 1)
7. Permanently fix the manifold bank to a fixed mounting surface
- ⚠ **CAUTION!**: These brackets are meant as assembly aids only, and not meant to be a permanent fixture

**NOTE:**

Bracket pocket located on left endplate (Item 1), Intermediate air supply (Item 4) and high flow right endplate (Item 9A / 9B)

H Universal Bank Hanger Bracket Vertical



**Installation bracket template**

*NOTE: When printing template page make sure page size is "actual size" not fit to page.*

| Item Number | Description                      |
|-------------|----------------------------------|
| 1           | H Universal Installation Bracket |
| 2           | Mounting Plate                   |
| 3           | M5 x 0.8mm Button Head Screw     |

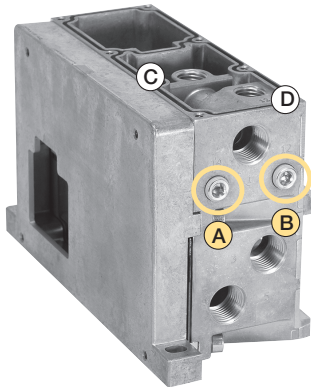
## Left End Plate and Intermediate Supply Field Conversion

End plate kits and manifold assemblies are ordered as internal or single external pilot however field conversion is possible.

### End Plate Configuration - Internal Pilot \*

Insert 2 pipe plugs in locations A & B (1/8" NPT or G 1/8) as shown

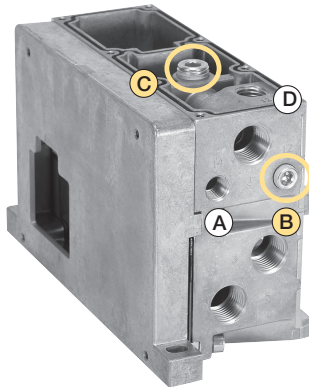
Blocking off the pilot supply ports will configure the left end plate as internally piloted. Pilot pressure required to operate the H Series valves will be drawn from the supply or #1 port and no additional connections are required. Port locations C & D must be left unplugged for this option to function properly.



### End Plate Configuration - Single External Pilot \*

Insert 1 pipe plug into location C (1/4" NPT) as shown to configure the left end plate as single externally piloted.

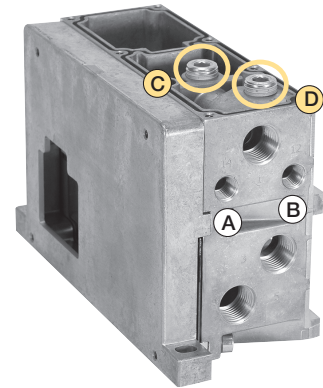
Pilot pressure required to operate the H Series valves must be supplied to the 14 port only at location A which is internally connected to the 12 pilot.



### End Plate Configuration - Double External Pilot

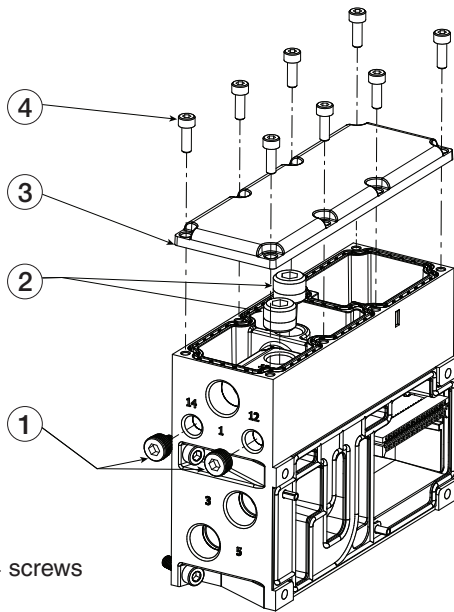
Insert 2 pipe plugs in locations C & D (1/4" NPT) as shown to configure the left end plate as double externally piloted.

Pilot pressure required to operate the H Series valves must be supplied separately to both ports 14 and 12 (locations A and B).



\* Standard in catalog

Note: Left end plate shown with cover removed.



Torque for M4 screws  
15-20 in-lbs

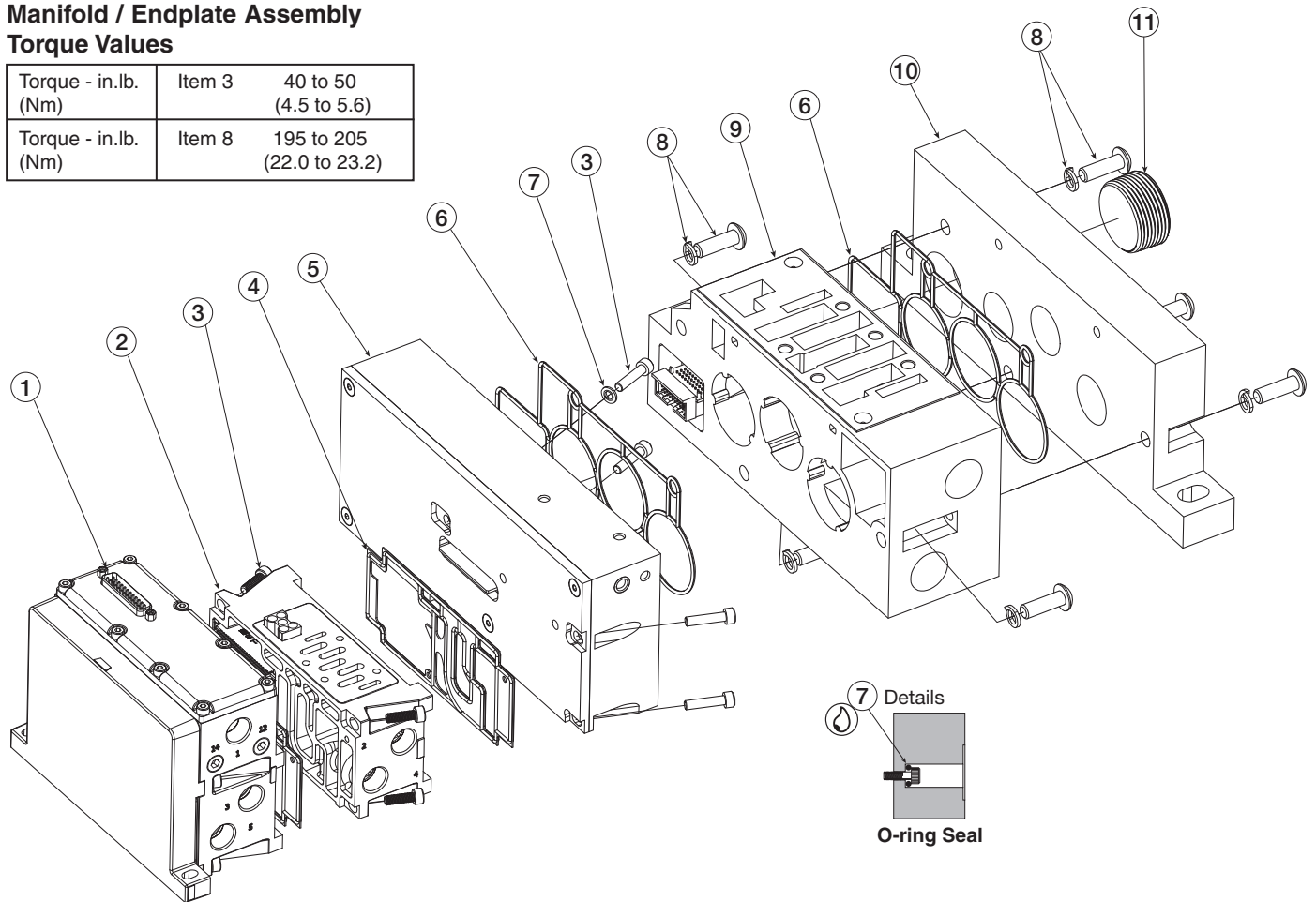
| Item Number | Description          |
|-------------|----------------------|
| 1           | 1/8" NPT / BSPP Plug |
| 2           | 1/4" NPT Plug        |
| 3           | Air Supply Cover     |
| 4           | M4 Screws            |

## Manifold Assembly with H3 Transition

### Manifold / Endplate Assembly

#### Torque Values

|                         |        |                              |
|-------------------------|--------|------------------------------|
| Torque - in.lb.<br>(Nm) | Item 3 | 40 to 50<br>(4.5 to 5.6)     |
| Torque - in.lb.<br>(Nm) | Item 8 | 195 to 205<br>(22.0 to 23.2) |

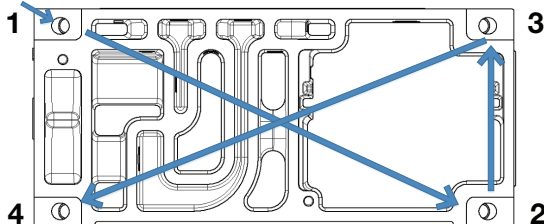


### Universal to H3 Manifold Assembly

The Universal manifold must be on the left side of the Transition Plate. The Transition Plate (Item 5) acts as a combination right endplate for the smaller manifold and left endplate for the larger manifold.

1. Position left endplate kit (Item 1) in desired location
2. Place the plate gasket (Item 4) over the mounting pads on the exposed left endplate (Item 1) surface, **Note: verify the electrical connector is out of the way of the gasket**
3. Position the next manifold (Item 2) segment on the left endplate
4. Finger tighten M5 screws in the pattern shown in figure below, make sure to start with the screw at position #1 \*

**\* Start with this screw**



Failure to follow the correct torquing procedure may result in misalignment of the manifold.

5. Fully torque M5 screws to 40-50 in-lbs using the same pattern shown above

| Item Number | Description                  |
|-------------|------------------------------|
| 1           | Left Endplate Kit            |
| 2           | H Universal Manifold Segment |
| 3           | M5 Screw                     |
| 4           | H Universal Gasket           |
| 5           | H3 Transition                |
| 6           | H3 Gasket                    |
| 7           | O-ring Seal Washer           |
| 8           | M8 Screw with Washer         |
| 9           | H3 Manifold Segment          |
| 10          | Right Endplate               |
| 11          | Pipe Plug                    |

6. Repeat steps 2 through 5 for each manifold segment
7. When all the Universal manifold bases have been assembled then attach the Transition Plate (Item 5). Continue to mount each successive Gasket (Item 6), and H3 Manifold Segment (Item 9). Lay the entire manifold on a flat surface, align for straightness and alternately tighten each screw incrementally to torque specifications in the torque chart. Place the right hand Endplate (Item 10) on the last base and tighten screws (see torque chart).
8. Add valves and accessories to the manifold (if not already attached). The final assembly should be leak and electrically tested before operation.



**Notes:**

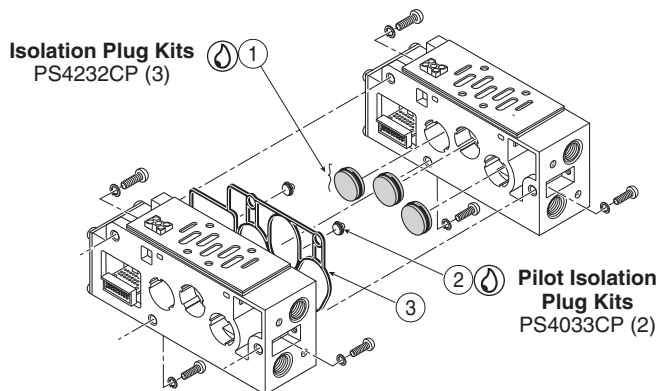
1. H3 Transition block connects 12 and 14 pilot galleys only from H Universal left side to H3 right side. Ports 1,3 & 5 are blocked. Right hand end plate must be used for H3 supply pressure.
2. H3 Transition Kit with electrical pass through board *without* prior H Universal air supply electrical expansion board to 25<sup>th</sup> address: Total manifold address count up to 24.
3. H3 Transition Kit with electrical pass through board *with* prior H Universal air supply with electrical expansion board to 25<sup>th</sup> address: depends on H Universal address count used after air supply segment. Up to 8 additional addresses after transition block less any used after H Universal air supply unit.
4. H3 Transition Kit with electrical expansion board to the 25<sup>th</sup> address: maximum of 8 additional addresses up to a total manifold address count up to 32.

**Manifold Isolation Assembly**

Inlet & exhaust galleries, and pilot supply / signal galleries may be isolated from those in adjacent manifolds through the use of isolation plugs. Note: air piloted valves, whether single or double, will need to be isolated at 14 and / or 12 galleries to prevent improper air pressure signals reaching adjacent valves. Figure below indicates typical assembly locations of the Main Gallery Plugs (Item 1) and the Pilot Gallery Plugs (Item 2).

The following describes how to install plugs:

1. Determine which gallery is to be isolated between two manifolds.
2. Use the large Plugs (Item 1) from the service kits to isolate manifolds from the main gallery(s).
3. Apply a light coating of grease to isolation plug and insert it into counterbore of left manifold base.
4. Apply a light coating of grease to Gasket (Item 3) and assemble in manifold groove.
5. Assemble plugged manifold into manifold bank in its proper position.
6. Apply main pressure and check for leaks. If any are present, do not operate the valve - repeat the reassembly process until satisfactory.



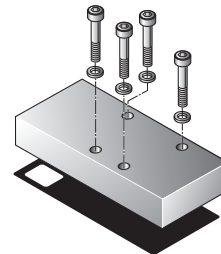
**Station Blanking Plate**

Use top Blanking Plate on a Manifold to reserve a place for a valve that will be added later to the manifold bank or to remove a valve from a manifold without having to remove the manifold block from the manifold bank.

Place Gasket and Blanking Plate on Manifold and assemble using Mounting Screws provided with kit. Tighten screws to torque specifications shown in the torque chart below.

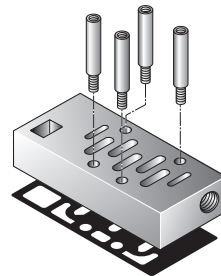
Apply main pressure and check for leaks. If any are present, do not operate valves on the manifold bank - repeat the assembly process until satisfactory.

| Valve Series          | H1                    | H2                        | H3                        |
|-----------------------|-----------------------|---------------------------|---------------------------|
| Torque - in. lb. (Nm) | 25 to 35 (2.8 to 3.9) | 115 to 130 (12.9 to 14.7) | 120 to 140 (13.6 to 15.8) |



**Remote Pilot Access Plate**

The Remote Pilot Access Plate provides access to the #12 and #14 valve pilot galleys for an H1, H2 & H3 manifold. It is required for Single or Double Remote Pilot Valves on a manifold. Hand tighten the tie rods into the base.



**H3 Shown**

**For all Instruction Sheets, go to [www.parker.com/pneumatic](http://www.parker.com/pneumatic)**

- V450P - H Series HA 26mm & HB 18mm ISO 15407-2 Valve Service
- V452P - H Series HA & HB ISO 15407-2 Sandwich Flow Controls
- V454P - H Series HA & HB Sandwich Regulators
- V467P - H Series H1 Sandwich Regulators
- V468P - H Series H1, H2 & H3, ISO 5599-1, 5599-2 Sandwich Flow Controls
- V470P - H Series H1, H2 & H3, ISO 5599-1, 5599-2 Valve Service
- V471P - H Series H2 & H3 Sandwich Regulators

- V751P - H Series, Terminal Block
- V752P - H Series, P2M Node
- V753P - H Series, Turck Network
- V754P - H Series, H Series Network
- V755P - H Series, Multi Pin
- V756P - H Series, Manifold Installation
- V757P - H Series, P2H IO-Link Module